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EDITORIAL DEPARTMENT NOTE

Without doubt World War II has had a decided influence in modifying industrial accounting thinking and practice. We are now far enough along in the war period to appraise these changes brought about by the war and to begin consideration of the needs and probable developments of the early postwar period. The two articles in this issue of the *Bulletin* are of the inventory-taking and forward-looking type, which will serve to stimulate thinking and promote discussion on the next cycle in the evolutionary development of industrial accounting practice.

The author of our first article, William F. Burke, is a graduate of Yale University and Assistant Controller and Assistant Secretary of the Scovill Manufacturing Co. of Waterbury, Conn. During the past 26 years of association with his Company, Mr. Burke has had a wide range of experience in all phases of financial and industrial accounting.

Our second article is by Irving D. Dawes who is a graduate of Harvard College and the Harvard Graduate School of Business Administration. A C.P.A. of Massachusetts, he has had a variety of experience in the capacity of comptroller and treasurer of several companies in the chemical, automotive, and textile industries. Since 1930, Mr. Dawes has been associated with the Virginia-Carolina Chemical Corp. of Richmond, Va., as Comptroller. He is also a Director of the Tobacco By-Products and Chemical Corp. and was formerly Chairman of the Cost Accounting Committee of the National Fertilizer Associatiton.

Articles published in the *Bulletin* present many different viewpoints. In publishing them the Association is not sponsoring the view expressed, but is endeavoring to provide for its members material which will be helpful and stimulating. Constructive comments are welcomed and will be published in the Forum Section of the *Bulletin*.

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NATIONAL ASSOCIATION OF
COST ACCOUNTANTS
NOVEMBER, 15, 1944

THE INFLUENCE OF THE WAR ON COST ACCOUNTING

By William F. Burke, Assistant Controller and Assistant Secretary, Scovill Manufacturing Co., Waterbury, Conn.

ALTHOUGH the cost accountant must ascertain the individual costs of the various products made by his company, his job cannot be defined within such narrow limits. His responsibilities cover a large area in the field of industrial management. A cost department keeps records of payroll and material distributions, of expenditures on production, maintenance and repair, and capital additions, of inventories of merchandise and plant, and of depreciation and amortization; it makes reports showing actual expenditures compared with budgeted expenditures, reports showing cost variations and pointing out inefficiencies, and so on. Journal vouchers must be prepared for the general ledger from which financial statements, tax returns, and other documents will be prepared by other accountants, It will be found that the most voluminous detail and the most difficult appraisals supporting these statements are made by the cost accountant. It requires the utmost skill to design a system of records that is revealing, efficient, accurate, and yet produces the desired information promptly.

The Broad Field

It would be misleading to think of the cost accountant as a keeper of records, however difficult this task may be. A cost system must be kept healthy and vigorous, and its reports should be of constant interest to those who receive them. Many otherwise good reports receive scant attention because they are late and uninteresting and do not hit the vital spots. The cost accountant must furnish the spark that keeps the whole organization cost minded and on its toes to make improvements. This requires no small degree of diplomacy and tact. Most foremen and superintendents are conscientiously trying to do a good job and have a good reason for everything they do in the way of making expenditures. You can't bluntly tell them they are inefficient or you will be about the most unpopular individual in the plant. If you try to

be a reformer, you will find that those who need reforming don't want to be reformed. You must carefully work out standards of performance, using the experience and advice of engineers and other staff men and join in a cooperative effort to achieve the desired end.

Within this rather broad field of cost accounting the war has had some marked influences. Some have been bad, others have been good. The seven most important as I see them are:

1. Cost accounting has gained increased recognition.
2. The war has had a leveling influence on cost accounting.
3. Standard costs have received a definite setback.
4. Inventory controls have been improved.
5. Plant personnel administration has created new problems.
6. Depreciation methods have changed.
7. The trend has been toward greater simplicity.

Increased Recognition

The war has brought cost accounting to the attention of executives as never before. This started with problems of procurement when it was necessary to establish selling prices on articles not previously made and on which no competitive prices existed that could be used as measuring sticks. Cost-plus-fixed-fee contracts were another matter. Then came renegotiation with the problem of segregating costs on renegotiable sales from costs on non-renegotiable sales. Finally contract terminations have loomed up, making it imperative to know costs on terminated portions of contracts. Top-flight executives of the country have wrestled with these problems and have found that their bewilderment is lessened in proportion to the quality of the underlying cost systems. These executives have gone into the front lines to attack such problems and either have been saved from annhiliation by their cost men or they have been annihilated because of the failure of their cost men. Without appraising the effect of these activities on corporation finance, we can say with assurance that any surviving doubters know that they must have good cost accountants and good cost systems. This is a distinct gain to the cost accounting profession that has raised it to a higher position than it has ever occupied before.

The War a Leveling Influence

The war has had a leveling influence on cost accounting. Good systems have become worse; poor systems have become better. It is easy enough to understand why this has happened. Rapid expansion, new products, lack of floor space for proper storage, night operations in the plant without the same quality supervision and clerical service that existed on the day shift, loss of skilled clerical workers to the armed forces—these and other conditions have partially destroyed the accuracy of good cost accounting systems and forced the adoption of makeshifts and short-cuts for the duration. The removal of unfavorable conditions after the war will see the restoration of these systems to their former status. On the other hand, the plant engaged in war work with a poor cost system or no cost system at all has been forced into at least a passable cost system by the demands made by the Government. Government auditors have been amazed at the large number of plants with good production records that have very poor cost records. These officials, being unable to get the information they want, have exerted pressure that has resulted in better cost systems.

Setback to Standard Costs

Standard costs have received a definite setback in favor of actual costs. The existence of CPFF contracts and the manufacture of new products under rapidly changing conditions have been factors in this trend, but a more basic reason is the universal insistance of government officials on costs that are as near actual as possible. Standards costs were accepted only where they could be converted to actual by the application of actual variance percentages. However, standard costs had earned a prominent place in cost accounting practice, and when the necessity for knowing actual costs no longer exists we may expect to see further progress made in the perfection of standard cost systems.

Inventory Control Improved

Material shortages have directed attention to inventory control. You must have the right material at the right place and at the right time; yet you cannot have excessive reserves to draw from, because, even if you're able to get them, you might not have the space to store them, and you must follow the rules of the Controlled Ma-

terials Plan. As the end of the war approaches, and as contract terminations become more numerous, the dangers of large inventories become apparent. Goods in excess of the quantitative requirements of war contracts cannot be included in claims. If you can get along with a million-dollar inventory instead of a two million-dollar inventory, you have solved at least half of the contract termination probem. All these factors have shown cost accountants that inventory control will produce results, and they have contributed materially in affecting inventory reductions without sacrificing production.

Plant Personnel Administration

Plant personnel administration has created new problems in two different directions. First, payroll administration has become a very complex problem due to intricate rules and regulations regarding the calculation of overtime, plus a mass of payroll deductions with attendant record keeping. After you have discovered how much you ought to pay a man who worked 58.4 hours on seven days in a week, one of them a holiday, when he was sometimes on the day shift and sometimes on the night shift, and at all times on piecework with different hourly earnings each day, and worked different hours each day for different reasons, you must distribute his time to jobs. Here is a problem that is very difficult to solve.

Second, the war, for a variety of reasons, has brought personnel management to the fore, and we have witnessed the growth in importance of the personnel director and his staff. Job evaluation has been developed as a tool in solving personnel problems. The welfare of the worker has received much greater consideration. Permanency of employment and guaranteed minimum wages are distinctly in the picture. Pension plans of various sorts have been inaugurated. Are all these developments outside the field of the cost accountant, to be passed over with a shrug and the assignment of a few account numbers to record the extra expenses? Or do they open up a new field that requires a new kind of cost record designed to appraise the human element in industry? As yet there isn't very much tangible to work with. There is some degree of definiteness in appraising jobs by weighing training, experience, responsibility, working conditions, and other factors, and there is

a considerable advantage in having rate scales for each labor grade, but we must conclude that accounting practice hasn't progressed far in this field. However, the war has at least stimulated thinking in this direction.

Depreciation Emphasized

Short-term business requiring heavy capital outlays, together with high income taxes and renegotiations (that in some cases amounts to a 100 per cent income tax), have brought depreciation policies under scrutiny. Suppose a concern takes a $220,000 contract and spends $100,000 for producing the goods and $100,000 for equipment that will be of doubtful value after the contract is completed. Although the concern estimates a profit of $20,000, the Bureau of Internal Revenue, if it allows a 10 per cent depreciation rate, will figure a profit of $110,000. Providing the other business of the concern is highly profitable, the combined effect of taxes and negotiation may be the return of $110,000 to the Government. If this happens, the concern will pay out $310,000 and collect $220,000. Of course there will be depreciation deducted from income in future years, but this seems remote and rates may change. Recognizing the unfairness of low depreciation rates, Congress has provided a 20 per cent amortization rate on those assets acquired under certificates of necessity. This has been helpful to some extent, but essentially the problem remains as stated. Government officials do not allow even the 20 per cent rate in costs used for procurement and contract termination purposes. Accelerated depreciation helps some, but is not enough and is not always approved.

Certificates of necessity are not now being granted for new capital additions, except in rare cases, and they will definitely be discontinued. New capital investment required for expansion of civilian business must be depreciated over a long period of time subject to the regulations of T. D. 4422. This policy will certainly check expansion, and evidently this is what Mr. James F. Byrnes had in mind when he included in his September 7 letter to the President the following recommendations:

> We should consider, also, the advisability of allowing manufacturers to depreciate new machinery substantially in the years in which such machinery is purchased. Great

> Britain has incorporated such a plan in its current Budget. This action would induce many companies to hazard new ventures, thereby increasing employment. It would give a real incentive to companies to keep our industry ahead of the rest of the world technologically. It would provide a steady domestic market of substantial proportion for capital goods and would go far to provide a stable basis for employment in that field in the postwar readjustment.

Those who realize the crying need for stimulus to private production should most heartily endorse Mr. Byrnes' proposal.

Trend Toward Simplicity

Finally it seems that cost accounting is becoming simpler in its technique. This does not mean that it is easier to get good costs now than it was several years ago. The old problems remain with us. However, cost accounting has reached some degree of maturity, and this in itself has led to the discovery that involved variance calculations and elaborate distributions do not produce results in proportion to their costs. The pressure of war activity has forced simpler methods because of lack of personnel, equipment, and time. A procession of auditors have examined cost records and they have spent long hours trying to understand intricate cost systems. Both they and cost accountants have learned that the simpler the system, the less the time consumed by all. Executives have been busier during the war and have demanded simpler reports as time-saving measures. The alert cost accountant has adapted himself to war conditions by simplifying his cost accounting in order to meet the revised demand. No doubt many time-saving innovations will last long after the war is over.

Reconversion Prices

The war has created conditions that will direct our thinking for some time to come. I refer to the many postwar problems that industry must face that involve the cost accountant. For example, there is much speculation about the resumption of production of civilian goods, and manufacturers are now receiving orders from anxious customers who want to market their civilian lines at the earliest opportunity. How are these orders to be priced? What will the OPA do in the way of price controls? What will be the

cost of manufacture? When the answers are known many manufacturers will not want to make civilian goods too soon. The OPA will continue its price controls. As they are set up at present, they do not offer any inducement to produce goods that had narrow profit margins in 1941 and early 1942. There probably will be some relief as Director of War Mobilization, James F. Byrnes, in his letter to the President dated September 7, 1944 said:

> When a manufacturer has been advised of the curtailment of a war contract and that he can resume civilian production, he probably will not move until he ascertains what ceiling price will be placed upon his goods. . . . . The Stabilization Director and the Price Administrator are engaged in determining the formula to be applied in arriving at the percentage increase to be allowed. The formula cannot now be announced. No hard and fast rule can be applied to all industries but a price program is being worked out that will make certain that the reconversion to civilian production in any industry will not be delayed by lack of information as to prices.

There is no guarantee that prices fixed by the new formula will yield profits, but we may be sure that cost accountants will have to become familiar with the formula and apply it to their individual positions.

Postwar Costs

As against the formula, the true costs must be obtained. Even though the cost of manufacturing an item in 1941 was known, it will be difficult to figure now what it will be in 1945. Materials then may be higher or lower than they are today, and the wage situation is far from being clear. With unions striving for the same weekly wage for 40 hours that is now received for 48 hours, and with the Little Steel formula threatened, there is the possibility of wage costs going up. On the other hand, there may be widespread unemployment which will operate in the other direction. After you estimate on the wage level you have the problem of forecasting the overhead, man-hour, or machine-hour rates that will prevail. With the plant expansion that has taken place during the war and the added burdens that have been placed on industry,

only the most confirmed optimist will think that the 1945 ratio of overhead to direct labor can be held down to the 1941 ratio. The 1945 ratio will depend greatly on volume, and since the fixed charges of industry are now much higher than in 1941, and the matter of maintaining volume is of the gravest concern, it can very readily be seen that overhead ratios are apt to be higher than in 1941, even when applied on a higher direct-labor-hour base. This situation will call for the use of extremely good judgment, for if prices should happen to be fixed on costs that are figured too high, business will be driven away and reconversion delayed. If they are fixed on costs that are too low, the result will be disastrous price wars. Yet it would not be surprising if many concerns evaded the cost problem entirely and fixed their prices as low or lower than their competitors on the grounds that "if so-and-so can afford to sell at that price, so can we." The cost accountant is sorely needed to lift industry above such a chaotic competitive level, but the path ahead is not an easy one to travel, as a general survey of national income statistics indicates that competition after the war will be most severe.

Postwar Employment

It is variously estimated that the annual national income is now about 170 billion dollars, of which approximately half represents expenditures for war. When war expenditures cease there will be a tremendous vacuum to be taken up by the production of goods and services now restricted. It is possible to name a long list of industries that should boom after the war—industries providing such products as buildings, refrigerators, automobiles, radios, etc., down to golf balls and whiskey. Yet these industries were all doing a good volume of business in 1939, and the national income for that year, adjusted for the increase in prices through 1943, was 108 billion dollars. These figures are from the May, 1944, number of the Federal Reserve Bulletin which says that the 170 billion dollar level will provide full employment whereas the 108 billion dollar level will leave between 15 and 20 million people out of work. The article further says:

> Maintenance of employment is the principal single economic objective that will have to be achieved if the existing system is to survive. . . . The choice is between high produc-

> tion, high employment, and general prosperity—and falling production, serious unemployment, widespread misery, and danger to our institutions. . . . . It is not the purpose of this article to discuss the measures and policies that need to be pursued by government and by business to keep up the volume of national output needed to maintain employment. It is only intended to point out here that a volume of output of approximately the size indicated is essential if disaster is to be averted. But there is no occasion for discouragement, only for determination. It is a challenge to our economy.

Statisticians and politicians are worried about what must be done to make up the difference between 170 billion dollars and 108 billion dollars, while pessimists say that only war can solve the unemployment problem and communists look forward to the collapse of industrial individualism and the rise of the totalitarian state.

Costing Practice Is Flexible

Industry must and will solve the unemployment problem if it is to be solved at all, and in so doing it will call upon the cost accounting profession to contribute its ideas and services. Before going into this let us examine briefly the science of cost accounting. Although basically there may be but few types of costs systems, it is almost universally true that no two plants, even in the same industry, follow identical theories and practices. Despite all the time and effort devoted to the subject, uniform cost accounting has gained very little headway in the past two decades. Each cost system is custom built, not only because of the product of the plant, but also because of the ideas of cost men and executives as to what constitutes the best method of cost finding and cost control. Since these ideas are constantly changing, few cost systems have any great degree of permanency. No cost system is perfect or ever will be perfect, and, in a plant producing a variety of articles, no one ever obtained or will obtain the correct cost of an individual product. A standard cost represents a consensus of opinion based on a combination of what has been done and what ought to be done. An estimated cost is just what its name implies—an estimate. An actual cost is what is revealed by the records, but the records themselves reflect opinions on numerous items entering cost especially

through the overhead. How to include the wages of the watchman at the gate in the cost of any product manufactured? Or the wages of the janitor, or the salary of the president, or the salary of the cost accountant? To be sure there are many methods of distributing wages and salaries that are considered reasonable, but none are accurate.

Beyond distribution of expense, there remain numerous other points in the cost-finding process where opinion and judgment play an important part. Not only will the overhead of a single production center vary from month to month, week to week, and day to day, but it will vary with the job, both because of the inherent characteristics of the job itself and because of accident, contingency, or something else that might happen to any job, such as a faulty tool, green operator, etc. A good example of such difficulties is furnished by a group of automatic screw machines. The best that can be said of a cost, be it standard, estimated, or actual, is that it is reasonable—a good cost man will never say it is perfect. When substantial reliability exists it would be foolish to spend 50 per cent more time and effort to improve cost accuracy 2 or 3 per cent, especially when more important problems are awaiting solution. Although uniform cost systems have many advantages, the individualism that prevails in cost accounting has produced men with self-reliance and ability to think clearly. This ability, together with the fluid state of cost accounting practice, will be of major importance in contending with postwar problems.

Fixed and Variable Costs

Within wide limits there are some wages, salaries, and expenses that go on regardless of the quantity of goods produced or sold. Those expenses that exist independent of output are most frequently called "fixed expenses" and include depreciation, some kinds of taxes, building upkeep or rent, salaries and wages of skeleton organizations in the factory and office, etc. They can be determined only after careful study of the organization in the light of managerial policy. All other expenses are classed as "variable expenses," and they will vary directly with the volume of production. This segregation of expenses is subject to the limitations of opinion and, although not wholly accurate, can be reasonable and practical.

The breakdown of costs into their variable and fixed elements can supply figures to be used by management in formulating its most important policies. A line of goods being sold at a loss when variable and fixed expenses are included may show a profit if charged only with variable expense. Until something better turns up, this line should be continued if irrevocable commitments can be avoided. It may be that a line of goods can be made more attractive by expending more sales effort as the cost of the extra sales expense will be more than offset by the additional profit realized by charging the extra sales only with the variable expenses. Or it may be shown that lower selling prices will produce a better result because of increased volume. Charts showing the various relationships between fixed and variable costs, sales prices, and volume can be prepared from which many interesting deductions can be made. Doubtless you have seen some examples in magazine articles and other writings on the subject.

Dangers Inherent in Selling Below Full Cost

Needless to say, all cost accountants do not agree on conclusions drawn from such charts. If a concern disregards fixed expenses and builds up sales that in total fail to cover both variable and fixed expenses, it will eventually be bankrupt. Therefore, some accountants dislike doing anything to encourage the sale of goods below full cost. The accountant who favors the promotion of sales at prices below full cost should appreciate the dangers of so doing. While the practice is frequently resorted to when a plant is not operating at capacity, an upward surge in business often results in the managers deciding to expand the plant because they do not have the courage to turn down sales, even when some do not cover full cost. The plan works when it is used to fill in the valley of the business cycle; it defeats itself when the business cycle is at the peak and new plant is added to provide increased volume. Added plant produces added fixed expenses, whereas policies are based on keeping "fixed expenses" fixed. Increased volume produces decreased costs only when fixed expenses are held down. Mere size does not alter relative overhead costs. The relationship between volume and costs, obligations and promises to customers who rely on you as a source of supply, the position of the business cycle, and other factors make the practice of selling below cost one that must

be handled with extreme care and caution; yet all signs point toward the growing importance of the subject and cost accountants will be forced to deal with it.

A Look Ahead

With regard to postwar development we come to these conclusions. Industry must solve the unemployment problem, and it can do this only by producing 60 per cent more goods than it did in 1939. This will result in the severest kind of competition. Costs of production will not be known by many who engage in the scramble for new business. Those who do figure their costs will in many cases be powerless to affect the market. Decisions on selling prices must be made before the cost accountant has had the opportunity to produce the kind of costs he would like. Conditions will be most unsettled, and standards will be subject to rapid change. Goods will be sold at prices below cost estimates, and factory organizations will be ordered to bring costs down to profitable levels. This will call for the creation of super cost standards—costs that cannot be attained immediately but which must be attained at some future date. Greater attention will be given to variable costs, and more decisions will be based on figures showing the margin between selling prices and variable costs. Cost accountants will succeed as they shape their course toward new thinking; they must give management what it wants—not prescribe for management what it shall get. The trend in the direction of simplicity should continue, with greater emphasis on cost control through budgets. The war has elevated the cost accountant to greater prominence than ever before, as management has placed more reliance on him for facts on which to base decisions. In the expansion of civilian goods production that must come if our economic system is to survive, business must be conducted on a profitable basis and, although this end can be achieved only by the joint contribution of many, it cannot be attained without reasonably accurate cost information properly interpreted.

SOME OBSERVATIONS AND VIEWPOINTS ON ACCOUNTING PROBLEMS

By Irving D. Dawes, Comptroller,
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THERE is usually enough "meat" in any major subject of cost or general accounting to afford a full repast, and a meal of that type is apt to be a very heavy one. Fearing mental indigestion, or even worse, from such a diet, I have decided to serve, rather, something of the Swedish "Smorgasbord" sort, with small amounts of quite an assortment of items, some of which it is hoped will not be found entirely unpalatable.

The title of this meal about to be served is "Some Observations and Viewpoints on Accounting Problems," and they come to you from exactly thirty years of cost and general accounting experience—some bitter, much sweet, and all instructive—in a wide variety of industries. When I started this business life bookkeeping was old, but accounting still very young and only just beginning to realize some of its possibilities, particularly in the cost accounting field. While it is yet too early to say that accounting has matured, it has arrived at least at the adult stage, and so must be taken seriously, even though it still has far to go before attaining proper stature and respect.

The many special problems confronting accountants—and especially cost accountants—during this hectic war period of almost unbelievable change and expansion have served to arrest the continuity and the orderly development of accounting methods. They have forced the adoption of expediencies, makeshifts, and half-baked methods which are not likely to have any enduring value in our postwar world. There has been no time to develop systems, forms, norms or standards, or those refinements of methods and results that will be so necessary when low-cost production (and not just production) becomes the major problem of the day.

The Job Ahead

Thus the continuity with the past has been broken. Several years of war have made the prewar era seem very remote, and what really matters, largely out of date. We are about to enter our Second Industrial Revolution, and the job of all of us is to be fully

prepared for it. We must keep forever in mind that America and accounting are both becoming of age and so approach our problems with that appreciation of values and that sense of practicality that comes with maturity. Accounting must now put behind it many of the fancies and theories of its youth and look from a new and entirely practical viewpoint at the tremendous problems ahead.

In its early days cost accounting concerned itself a great deal with attempted scientific determination and distribution of labor, overhead, depreciation, and other costs. These were split up minutely into many departments, cost centers within departments, and right down to machines in many cases, with running and idle rates for each. Too much time and expense were taken in trying to develop cost accounting into an exact science instead of a workable and practical vehicle for determination of costs and for controls which would be useful to production and financial executives in piloting the business. It is small wonder that cost accounting got off to a poor start and for years was held more in contempt than admiration by the practical, hard-riding production men who have contributed so much to the development of this country. Fortunately, in the ten or twenty years preceding this war, cost accountants themselves, and very largely through the N. A. C. A., began to realize and appreciate their real mission. A very great part of this was due to one great development—the transformation of the theory of standard costs into a practical living thing.

Being personally much in sympathy with these new viewpoints and never impressed with theory as anything but a useful guide to sound practical methods, I have, over these years, developed certain ideas and attitudes toward some common accounting problems that will be presented here. Having frequently been disagreed with, I shall not be in the least disconcerted if you take violent issue with some, or even all, of the ideas presented. When I err it is hoped it will be on the side of too much practicality and too much concern and sympathy for the non-accounting executives of modern business who must now place such great dependence on what we can do for them.

The subject upon which I should like to give briefly my observations and viewpoints are the following:

1. Installation of accounting systems—Basic philosophy.

2. Determination of purpose and points of emphasis of a cost accounting system.
3. Some thoughts on factory overhead.
4. The principle and value of cash costs.
5. The application of general overhead.
6. The determination of standards.
7. The fixing of depreciation rates.
8. The preparation of budgets.

The broad scope and almost endless possibilities of any one of these subjects need not alarm you as no attempt will be made to exhaust either them or you, but simply to take brief nibbles at each, as you do your Smorgasbord.

Installation of Accounting Systems—Basic Philosophy

In my belief more accounting and cost systems have gone on the rocks or failed to function as expected for one principal reason, and that is failure to provide simplicity at the source of the basic records. The fundamental purpose of a factory is to get out production, of a sales office to make sales and collect accounts, and of an accounting department to do the company's accounting. Accounting technique and bookkeeping problems belong in the accounting department and should be handled there by those trained for that purpose and not as a side line (and perhaps grudgingly) by those in the operating and production departments. It is conceded that those departments where physical activities are conducted must necessarily be the source of information and records upon which the accounting system can be based. Those records, however, should be as few, simple, and basic as possible and closely allied and correlated to the type of operation they are intended to depict. The labor records, to take only one example, should be of the very simplest type and identical with, or parallel closely, the basic payroll records themselves, so the same reports and forms can be used for both pay and cost purposes. This will not only save much clerical work but insure greater accuracy and facilitate the tying in of the costs with the books of account. The same principle is applicable as well to the sales, purchasing, and other departments. You will find it true that the accuracy of your accounting work, in reflecting the company's operations, will improve as the basic records flowing from the sources of activity become

simpler. So, as far as possible, let the accounting work be done by and in the accounting department and let the other departments know that you are asking from them only the very minimum of requirements. In doing this you will do much to obtain, not only their cooperation, but their respect for your accounting system and what you are trying to accomplish.

Another thing to be remembered in the installation of an accounting system is not only to have your reports simple and easy to understand, but even more important, prompt and timely. The operating heads, the manager, superintendent, and foremen rely much more on day-by-day information than on monthly reports days or weeks after the month has closed and perhaps the horse stolen. For example, a few key figures of production and labor costs, possibly stated only in units or hours, but submitted daily and promptly, may be worth many times more to them than beautiful schedules received a long time afterward.

A third essential of an accounting system is that it be economical. Most managements are worrying constantly—even though frequently unjustifiedly—about accounting expense. Unfortunately a good part of this attitude has been justified in the past. However, this can be eliminated—first, by keeping the accounting out of the operating departments, as already described; second, by making the accounting system as simple as possible; and third, by the use of up-to-the-minute accounting equipment. The latter has become of the utmost importance, and it is only by thorough mechanization of their accounting methods that many concerns have been able to keep their accounting cost from skyrocketing in the face of the many additional and complex records now required of business. It is a gross mistake to require a $1,800-a-year clerk to do things by hand when by supplying him with a $300 machine his output can be increased by 25, 50, or 75 per cent, not to mention saving of physical wear and tear on him.

These are only a very few of the matters involved in the installation of accounting systems but they are vital to their successful operations.

Purpose and Points of Emphasis

Some cost systems have failed, or at least have not realized their full possibilities, because their true purpose or the points where

emphasis should be placed has not been understood fully. For example, in an industry where material is by far the most important item, the cost system should not be devoted largely to the labor and overhead items instead. Very great losses may occur in the handling, storage, moving, and use of materials, which will offset many times our savings in labor and overhead where these are minor items. I do not mean that labor and overhead should be disregarded, but rather to point out that there may be a tendency to ignore the importance of material in such cases and to appreciate the necessity of working out a cost system that will reveal the inefficient handling and use of it. I have in mind particularly the development of standard handling costs or material burdens, together with the installation of yield and waste standards and reports that will reveal immediately what is going on.

The same arguments apply in those cases where labor is the dominating factor and where, therefore, its full and efficient use is of major importance. The point I am trying to make is that a cost system should never be installed until first determination has been made of the relative importance of the various cost factors and of where the principal accounting emphasis should be placed.

A good example is the fertilizer business where material amounts to 75 to 80 per cent of the total cost. Labor and overhead are still sufficiently important to justify careful attention and we cannot—and do not—overlook the opportunities to save a few cents a ton here and there on those items. However, the greater possibilities for economies must lie necessarily in the use and handling of material. Thus, proper and controlled formulation of grades, the careful checking of yields, the provision of sufficient inventories to avoid expensive substitutions or less than carload shipments, and many other things must be matters of concern and the major points of emphasis for the cost accounting system.

Conversely, in a metal-working shop starting with inexpensive iron castings to which many machining, polishing, and other operations must be applied, we will find labor the most important element requiring the greatest attention of the cost system.

Some Thoughts on Factory Overhead

Factory overhead is in some respects the most important and in others the least significant of all the elements of factory costs.

There has been a tendency in cost accounting to give an undue proportion of time to this factor when equal attention to material and direct labor might have been much more productive.

The two factors that give factory overhead its great importance from both the operating and cost accounting viewpoints are, first, its tendency to creep higher and higher if not watched closely, and second, the great financial return that can accrue by increasing production without a corresponding rise in overhead costs. These alone justify adequate records and reports which will present the real facts to those concerned. They form an essential part of any successful cost system.

This great importance, however, applies chiefly to the *total amounts* of factory overhead rather than to overhead cost per unit of product, but it is the latter that more often has been given the greater stress by cost accountants. It is considerably more valuable and understandable to the general manager to learn that if he can, say, sell and produce 10,000 units more of a certain item, he will get $2,500 worth of free overhead, than to be informed that the unit cost of the total increased production will be reduced by 7.6 cents.

The point is that the overhead, or most of it, is already there. It is the organization, the facilities, the insurance, taxes, and all the other factors that have been put into the pot as the entry fee into the game—the "ante." This many units of output will absorb so much overhead, and this many more a still further amount, etc., until finally it is all taken care of and profit begins.

The Principle and Value of Cash Costs

While it is necessary and important to know the cost of a product, expressed in terms of material, direct labor, and overhead, most cost systems fail to make another important separation, which is frequently of even greater use to the management, particularly for the determination of unit selling prices. I refer here to the breakdown of total cost into the two items of cash cost and other cost.

The total unit cost of a product is very far from being the main factor in the fixing of its selling price. The principal factor is almost always the competitive market, but the matter of how much additional total overhead can be absorbed by getting extra business

is frequently a very powerful element in the setting of selling prices. If we know exactly how much money will go out of the cash drawer for material, direct labor, and other items that vary directly with the quantity of goods made—in other words the total "Cash Cost"—determination can readily be made of the low limit or "floor" below which selling prices should never be permitted to go and also the starting point for measurement of overhead that can be or is absorbed. This can become very important indeed, particularly in times of low production when the problem of keeping the plant running may be serious.

The Application of General Overhead

Reference has already been made to the tendency to break overhead costs down into minute portions and spread them to numerous operating departments. Many systems, for example, will provide for *general* factory overhead to be applied to *each* of many departments in an effort to get a complete and scientific cost for each. This leads to a great deal of extra work, inaccuracies, and the burdening of productive departments with uncontrollable expense, all of which should be avoided if possible. In many plants it will be found entirely practicable to apply such general overhead at some natural focal point in one lump sum, thus avoiding the necessity of breaking it up into small pieces. For example, it may be that all production in a plant goes through the same operations up to a certain point, after which it branches out into different products or variations of the original product. The application of general overhead at this divergent point will simplify the cost keeping greatly and probably improve its accuracy. It is admitted that the true cost of general overhead for the various departments is not determinable under this method, but the cost of the *products* is, and this is the important thing.

You may not find it possible to allocate general overhead in one lump sum at one focal point in this manner. The main purpose, however, is to give you the idea and perhaps you may discover that, instead of distributing general overhead to a dozen or more departments, you can reduce its application to a much smaller number of points. It is a matter well worth studying and one that seems to have been neglected in cost accounting literature.

The Determination of Standards

Whole books have been written on the subject of standard costs without exhausting it, so no attempt will be made now to cover it in any but a sketchy manner. Most of you are thoroughly familiar with both the principles and practice of standard costs, and there is probably little I can add to your knowledge of the subject. However, I would like to give you a few thoughts, whether new or old.

Standard cost accounting is, in its essence, the setting of predetermined or "standard" costs and the comparing of actual results with them. In a fully developed system the standards are used as what may be called the "official" costs, with the differences between actual and standard being treated as "differentials" or "variances." The standards, being used for inventory, sales costing, and other purposes, and being set in advance, the actual cost accounting becomes a matter of accounting for exceptions, the standards having been taken to represent what "should be." Thus the accountants, the operating men, and all others concerned become interested principally in the exceptions or variances. The current cost reports, then, are largely an exhibit of gains or losses from standards, depicting good or bad results, rather than primarily a record of actual costs for each of the products made.

Not all accountants are in agreement as to what the standards should be. Some think they should represent ideal or perfection in costs, admittedly unobtainable but an absolute unit against which actual accomplishment can be measured accurately and operating efficiency determined. This concept has at least two major defects. In the first place, it presupposes the ability to set an ideal or perfect cost. One man's idea of perfection may be entirely different from another's, and even if all can agree on such a cost at any given time, it is likely that the inexorable processes of time and progress will render the ideal very obsolete indeed before long and perhaps quite a time before the obsolescence is even discovered. In the second place, the ideal, admittedly being unattainable, is not a sound basis for the costing of production, inventories, or sales. Thus is lost one of the greatest benefits of the standard cost method.

In my opinion the proper concept of a standard cost is what *"should be"* under the conditions expected to prevail during the period for which the standards are set. In other words the costs

should be set at what reasonably may be expected, operating in a normal manner, with due allowance for the ordinary vicissitudes of day-by-day operation. Such standards, being attainable with good operation, will serve as fair measures, both of the value of the product made and the efficiency of the operators. They will, and should, be "usable" and if properly set, should be more accurate and representative than the fluctuating costs and values determined under old-fashioned accounting methods or than the ideals. Such standards will prevent products from appearing in inventory or cost of sales at different costs from month to month, when as a matter of fact their real worth or value is no different in one period than another.

In setting standard unit costs on the basis of conditions expected to prevail, special treatment may be required for that proportion represented by overhead. The proper standard for that element may not represent expected conditions at all. I have in mind particularly a period of sub-normal production when the normal operating capacity of a plant cannot be used to the full. Under old-style methods the overhead costs would have to be distributed over fewer items, with a consequent increase in unit costs. We would then have the anomalous condition of a product having, in depressed times, a higher than normal book cost or value but a reduced market value. With the standard cost method, however, this would not occur. The standard rate of overhead would be determined on the basis of a reasonable operating capacity under average normal conditions. The actual operations being sub-normal, obviously the total overhead would not be absorbed at the standard rate, and a differential or variance would develop which would have to be charged to profit and loss.

This method has two decided advantages. First it prevents an unwarranted increase in the book value of the product because of inflated overhead. Second, the variance becomes a dollar and cents measure of the cost of unused capacity, which in fact is the principal cause of the unabsorbed overhead.

It will be obvious from all this that a standard cost system can never be better than its standards, and these standards must be both representative and reasonable. The setting of standards is by far the most important and difficult part of the whole cost accounting system. Good judgment and full knowledge of the operation for

which a standard is set are both vital requirements. The help and cooperation of the operating men themselves in setting this standard are likewise extremely helpful. They should be taught that determination of a standard is the same as setting a budget for each product or operation and will likewise provide the measure of their accomplishment if the full value from standard cost accounting is to be obtained.

The Fixing of Depreciation Rates

Once upon a time depreciation was the principal subject of accounting literature and controversy, although in recent years it probably has been superseded by standard costs. Much time has been spent in engineering studies, the consideration of scientific ways for applying depreciation, and attempts to predetermine obsolescence. We have been taught that depreciation is a very scientific subject and that scientific methods should be used in its determination.

Certainly we must all agree to the importance of depreciation as an element of manufacturing cost and as a prime factor in income tax accounting. We can agree also that for standard types of equipment, such as motors, lathes, etc., fairly good predeterminations of expected life, either on a year or unit of production basis, can be made. In these times of rapid progress, however, the factor of obsolescence is becoming increasingly important and may upset entirely the accurate engineering computation of physical life. Not only may a machine become obsolete by the advent of improved equipment, but the product itself is even more apt to disappear or to change into something else needing an entirely different sort of equipment.

This seems to me to drive business men to consider the writing off of capital assets on an amortization rather than a physical depreciation basis. In other words, instead of trying to calculate how long the asset will probably last, they might do better (and perhaps arrive at equal accuracy) by determining for how many years they desire the asset to remain on the books simply as a matter of financial expediency. They might decide, for instance, that they wish all of a certain type of equipment to be entirely written off over a fifteen-year period and charge off one-fifteenth each year, even though they may know that physically the equipment can last longer

than that. I am not suggesting any foolish short-term write-off periods that will distort costs and earnings but only reasonable amortization rates that will probably not be too far out of line with the physical facts and the chances of obsolescence. This would avoid the necessity for detailed calculations of the probable physical life of each item of equipment and their modification by guesses as to obsolescence. It is recognized that this method will probably not have the approval of the income tax authorities, but most companies, particularly the larger ones, find it impossible to keep their book depreciation and their allowed tax depreciation in line in any case, so any difference is not a matter of vital importance.

The Preparation of Budgets

This is a tremendous subject upon which whole books have been written, and it is my intention to cover only one point, which again seems to have been neglected in the literature on the subject. Most of the books on budgeting will tell us to obtain from each plant, office, or department its estimates of amounts required for the budget period under consideration, usually item by item. These items are then reviewed by the budget department and entered on the official budget schedules. This appears sound theoretically, but does not always work well in practice. For example, our own company has many sales offices, each with forty or more expense accounts, and again many factories with an even greater number of accounts. Budgets prepared by these offices and factories would naturally show even figures or round numbers for each of the accounts. Without doubt these would contain safety factors intended to put them all on the high or safe side. Each set of budget figures will seem reasonable and acceptable, but when combined with the other departments will be found to produce a total company expense that will prove far in excess of what can really be expected. The budget has lost a large part of its value to the operating executives of the company as a guide to probable expenditures, and even though the error be on the side of safety, the budget department can take little pride in this departure from accuracy.

My point here is that the budget department (which is presumably the accounting department) can make a much more accurate budget *by itself* and from its own records than by taking these budgets from the many departments and adding them together.

With so many departments and accounts concerned, the law of averages comes in, and the higher expenses of one office or department are likely to be offset by the lower ones of another. The accounting department, by studying the items over a period of several years and making allowances for the changed conditions that are known to exist or may be expected, can develop budget figures for the new period which will be much more representative of what is apt to happen. Besides, it will avoid the pyramiding of the many safety factors and round numbers inserted by the individual departments. The accounting department will of course also provide safety factors for the various items, but ordinarily they will be very much less than the combined ones set by all the departments.

While these remarks have applied chiefly to the budgeting of expenses, they are equally true for sales and cost of sales budgets. Sales department estimates of future sales tend to be over-optimistic or influenced by temporary or immediate factors which may have no great effect in the long run. The accounting department by its past records of sales, the use of charts and the laws of averages and probabilities, with of course due allowances for changed or changing conditions, can often arrive at a much more accurate prediction of sales. Likewise for cost of sales it is able to make more accurate determination of costs and uses of material from its many records and long experience with those items than usually can be provided by the manufacturing or purchasing departments.

What all this is intended to convey is that the accounting department should be able to do a much better and more accurate job of budget making than can the sales, purchasing, production, or other operating departments themselves. This does not mean that it should not consult those departments and instead rely solely on its own records. Those records should, rather, be the starting point for the budget, with variations to be made up or down from information regarding sales, manufacturing, purchasing, or other conditions which it obtains from those departments and from its own general knowledge of both the company and the industry of which it forms a part.

This ends the comments on specific accounting problems. One cannot, of course, cover so many different and important subjects in such a brief and casual manner and still do them justice. The

chief purpose has been, however, to develop viewpoints and that practical attitude toward accounting problems which is going to be so essential in the postwar period. It will be a time beyond any other when business must be informed and given the tools and guidance it needs so badly if it is to accomplish the tremendous tasks ahead. It must not be hampered by the straitjackets of complex and unwieldy accounting systems, but instead given something which will help rather than impede.

One must keep in mind at all times the fundamental requirement for all successful accounting systems—that they fit the operations and not the reverse. Accounting is always an expense, but whether it be a *productive* expense or just an outgo depends on men like you. It depends particularly on how you fit your systems to the activities of your companies and how you fashion your records and reports into useful weapons and controls for your operators and executive staffs.

You are in a field of great and growing opportunities for both service and advancement. Management is becoming increasingly conscious of the importance and value of your activities, which at the same time gives you a magnificent opportunity to learn the business of your company in almost all of its phases. What better and more exceptional opening for understanding and advancement could be offered? It should be most appealing to those of you anxious to find a promising path to the higher positions in industry.